

REMARKS

In section 4 of the Office Action, the Examiner rejected claims 60-62, 64, 65, 70, 71, 73-76, 78-82, and 84 under 35 U.S.C. §103(a) as being unpatentable over Khayrallah in view of Yagyu and further in view of Easwar.

Independent claim 60 - Khayrallah fails to disclose decoding a code vector such that the decoding includes deriving a set of received signal values corresponding to the code vector, and generating a reliability factor based upon a difference between at least two of the received signal values such that the reliability factor is a measure of reliability of the decoding.

The Examiner points to column 7, lines 3-12 and lines 57-64 as a disclosure of the reliability factor recited in independent claim 60.

Column 7, lines 3-12 state that (i) re-encoded, decoded symbols are used from a first pass for calculation of an error term, (ii) the error term is used to update the channel estimate during a second pass, and (iii) a channel tracker 50 more accurately tracks changes in the channel response of the channel corresponding to the received signal.

The error term here is the difference between the symbol as received and the equalized, decoded, and re-encoded symbol. This error term, thus, is a measure of the difference between the channel through which the symbol was transmitted and the representation of that channel by the equalizer. Accordingly, this error term is used to adjust the tap weights of the equalizer in a manner so as to decrease the error term so that the equalizer more accurately reflects the actual channel.

As can be seen, the error term has nothing to do with decoding reliability.

Column 7, lines 57-64 state that (i) the output of the mode selector 56 is provided to the adaptive propagation characterization estimator 32, (ii) the mode selector 56 is provided with the decoded and re-encoded symbols, and (iii) these symbols correspond to the estimates of encoded information from the received signals after processing through the decoder 58 which are associated with particular portions of a received slot.

The reason that the decoded symbols are re-encoded is so that the encoded symbols in the received signal are compared with encoded symbols rather than with decoded symbols in forming the error between the actual channel and the channel estimated by the equalizer 54.

The output of the equalizer 54 could have been used for this purpose because symbols are in the output of the equalizer 54. However, because the decoder 58 is an error correcting decoder, the output of the decoder 58 is a more accurate representation of the transmitted bits, which, when re-encoded, will produce a better channel error term when compared to the received symbols.

As can be seen, the channel error indicates how well the equalizer 54 is equalizing, not how well the decoder 58 is decoding.

Moreover, the error term is not formed based on two values produced by the decoder 58. Instead, the error term is formed based on one value produced by the decoder 58 and one received value, i.e., a value not produced by the decoder, at the input of the equalizer 54.

Indeed, there is no mention anywhere in Khayrallah of a reliability factor that is a measure of decoding reliability as required by independent claim 60.

Accordingly, Khayrallah does not disclose the reliability factor of independent claim 60.

Yagyu also does not disclose generating a reliability factor. Yagyu only mentions improving the reliability of the soft output of a MAP decoder.

Easwar makes no mention of reliability at all.

Accordingly, because Khayrallah, Yagyu, and Easwar do not disclose generating the reliability factor of independent claim 60, the person of ordinary skill in the art would not have been led by Khayrallah, Yagyu, and Easwar to the invention of independent claim 60.

For this reason, independent claim 60 is not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar.

Independent claims 73 and 79 - As discussed above, Khayrallah, Yagyu, and Easwar do not disclose generating a reliability factor relating to decoding reliability. Therefore, independent claims 73 and 79 are likewise not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar.

Because independent claims 60, 73, and 79 are not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar, dependent claims 61, 62, 64, 65, 70, 71, 74-76, 77, 78, 81, 82, and 84 *per force* are not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar.

In section 5 of the Office Action, the Examiner rejected claims 66-69, 77, and 83 under 35 U.S.C. §103(a) as being unpatentable over Khayrallah in view of Yagyu

and further in view of Easwar and still further in view of Molnar.

Independent claim 66 - As discussed above, Khayrallah, Yagyu, and Easwar do not disclose generating a reliability factor relating to decoding reliability. Similarly, Molnar does not disclose generating a reliability factor relating to decoding reliability. Indeed, Molnar makes no mention of reliability at all.

Accordingly, because Khayrallah, Yagyu, Easwar, and Molnar do not disclose generating the reliability factor of independent claim 66, the person of ordinary skill in the art would not have been led by Khayrallah, Yagyu, Easwar, and Molnar to the invention of independent claim 66.

For this reason, independent claim 66 is not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar and still further in view of Molnar.

Because independent claim 66 is not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar and still further in view of Molnar, dependent claims 66-69 *per force* are not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar and still further in view of Molnar.

It should also be clear that dependent claims 77 and 83 are not unpatentable over Khayrallah in view of Yagyu and further in view of Easwar and still further in view of Molnar.

CONCLUSION

In view of the above, allowance of all claims and issuance of the above captioned patent application are respectfully requested.

The Commissioner is hereby authorized to charge any additional fees that may be required, or to credit any overpayment, to account No. 260175.

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